

# G.J. CHEMICAL COMPANY, INC. SAFETY DATA SHEET

## 1. PRODUCT IDENTIFIER

1.1 PRODUCT NAME -----> **Chloroform (All Grades)**

PRODUCT NUMBER(S) -----> 124000, 124010, 124040, 124050,  
124200, 124400, 124600

TRADE NAMES/SYNONYMS --> Trichloromethane, Methylidyne Trichloride

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST:

RECOMMENDED USE: Chemical for synthesis, Solvent, Intermediate

USES ADVISED AGAINST: No information available.

CAS-NO: 67-66-3

CHEMICAL FAMILY: Chlorinated Hydrocarbon

### 1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company: **G.J. CHEMICAL CO., INC.**

Address: 40 VERONICA AVENUE  
SOMERSET, NJ 08873

Telephone: 1-973-589-1450

Fax: 1-973-589-3072

### 1.4 Emergency Telephone Number

Emergency Phone: 1-800-424-9300 (CHEMTREC)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

GHS Classification in accordance with 29CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 3), H331

Skin irritation (Category 2), H315

Eye irritation (Category 2A), H319

Carcinogenicity (Category 2), H351

Reproductive toxicity (Category 2), H361d

Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

Specific target organ toxicity - repeated exposure (Category 1), Liver, Kidney, H372

Acute aquatic toxicity (Category 3), H402

## 2.2 GHS Label elements, including precautionary statements



Signal word            **WARNING**

### Hazard statement(s)

H302 Harmful if swallowed

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H331 Toxic if Inhaled

H336 May cause drowsiness or dizziness.

H351 Suspected of causing cancer.

H361d Suspected of damaging fertility or the unborn child.

H372 Causes damage to organs (Liver, Kidney) through prolonged or repeated exposure.

H402 Harmful to aquatic life.

### Precautionary statement(s)

#### Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

#### Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P311 IF INHALED: Remove victim to fresh air and keep at rest in a position

comfortable for breathing. Call a POISON CENTER or doctor/ physician.  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.  
 Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
 P337 + P313 If eye irritation persists: Get medical advice/ attention.  
 P362 Take off contaminated clothing and wash before reuse.

**Storage:**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

**3. INGREDIENTS**

**3.1 SUBSTANCE:**

INGREDIENT	CAS No.	% by Wt. Min.	CLASSIFICATION
Trichloromethane EC-No.200-663-8 Index-No.602-006-00-4 Reg.-No. 01-2119486657-20-XXXX	67-66-3	99	Acute toxicity, Oral (Category 4), H302 Acute toxicity, Inhalation (Category 3), H331 Skin irritation (Category 2), H315 Eye irritation (Category 2A), H319 Carcinogenicity (Category 2), H351 Reproductive toxicity (Category 2), H361d STOT-SE (Category 3), Central Nervous System, H336 STOT-RE (Category 1), Liver, Kidney, H372 Acute aquatic toxicity (Category 3), H402
Ethanol EC-No.200-578-6 Index-No.603-002-00-5 Reg.-No. 01-2020063206-63-XXXX	64-17-5	0.5-1	Flammable liquids (Category 2), H225 Eye irritation (Category 2A), H319

**3.2 MIXTURE:**

**4. FIRST-AID MEASURES**

**4.1 DESCRIPTION OF FIRST AID MEASURES:**

## **INHALATION: CHLOROFORM**

**\*\*FIRST AID- Remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Treat symptomatically and supportively. Get medical attention immediately.**

## **SKIN CONTACT: CHLOROFORM**

**\*\*FIRST AID- Remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.**

## **EYE CONTACT: CHLOROFORM**

**\*\*FIRST AID- Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15-20 minutes). Remove contact lenses, if worn, after initial flushing. Get medical attention immediately.**

## **INGESTION: CHLOROFORM**

**\*\*FIRST AID- Do not induce vomiting. Do not give fluids. Prevent aspiration by keeping the victims head below the knees. Never give anything by mouth to an unconscious person. Immediately get to a physician or poison control center, treat symptomatically. Gastric lavage may be effective when performed by a physician within 4 hours of ingestion.**

### **4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:**

**Eye:** Irritating, causing pain, inflammation and temporal eye damage; Liquid in the eye can cause loss of the cornea epithelium. Regeneration of cornea cells is prompt and returns to normal in 1-3 days.

**Skin:** Mildly irritating; May produce burning sensation and redness. Absorption of liquid through intact skin is possible and may cause systemic poisoning.

**Inhalation:** This is the major potential route of exposure. Irritation of the respiratory tract or acute nervous system depression characterized by headache, dizziness, staggering gait, confusion, unconsciousness or coma and possibly death. Irritation of respiratory tract. Causes formation of carbon monoxide in blood, which affects cardiovascular system and the central nervous system.

**Ingestion:** Can cause severe burning of mouth and throat, pain in chest and abdomen. Irritation of gastrointestinal tract. If vomiting results in aspiration, chemical pneumonia could follow. Absorption through gastrointestinal tract may produce liver damage, symptoms of central nervous system depression, unconsciousness and death..

**Chronic:** Can cause headache, mental confusion, depression, fatigue, loss of appetite, nausea, vomiting cough, loss of sense of balance and visual; disturbances. Prolonged skin contact may cause dermatitis. Chronic inhalation or ingestion may cause liver damage.

**Medical Conditions Aggravated by Exposure:** Persons with angina or other cardiovascular diseases should not be exposed to this product. Persons with alcoholism, acute and chronic kidney and liver disease should not be exposed to this product. Drinking alcohol or taking phenobarbital can increase the potential for development of toxic effects resulting from exposure to this product.

#### **4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:**

**Notes to Physician:** Adrenaline should never be given to persons overexposed to chloroform.

### **5. FIRE FIGHTING MEASURES**

Flash Point: None°F TCC

LEL %: No data available

Auto-ignition Temp.: >600°C (>1112°F)

UEL %: No data available

**5.1 SUITABLE EXTINGUISHING MEDIA:** Foam--> x CO2--> x Dry Chemical-->  
x Water-fog--> x Other-->

Unsuitable extinguishing media: Do not use waterjet.

#### **5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR**

**MIXTURE:** AT HIGH TEMPERATURES THIS PRODUCT DECOMPOSES TO GIVE OFF HYDROGEN CHLORIDE GAS PLUS OTHER TOXIC AND IRRITATING VAPORS SUCH AS PHOSGENE, AND CHLORINE. VAPOR MAY FORM FLAMMABLE MIXTURE IN AN ATMOSPHERE THAT CONTAINS A HIGH PERCENTAGE OF OXYGEN.

This product is non-flammable and non-explosive under normal conditions. If storage containers are exposed to excessive heat, over pressurization of the containers can result. If storage containers are exposed to excessive heat, over pressurization of the containers can result.

**CONDITIONS OF FLAMMABILITY:** Not flammable or combustible.

**HAZARDOUS COMBUSTION PRODUCTS:** Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, carbon oxides, hydrogen chloride, chlorine and phosgene evolve when this material undergoes combustion.

**5.3 ADVICE FOR FIREFIGHTERS:** Shut off source. Water fog may be used to cool closed containers to prevent pressure build. Wear NIOSH/MSHA approved pressure demand self-contained breathing apparatus (SCBA) for buildings and confined spaces where this product is stored. Structural firefighters clothing provides limited protection to the combustion products of this material. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.

## **6. ACCIDENTAL RELEASE MEASURES**

**6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:** Eliminate ignition sources in the vicinity of the spill or released vapor. Immediately evacuate all nonessential people. Verify that responders are properly trained and wearing appropriate respiratory equipment and fire resistant protective clothing during cleanup operations.

### **6.2 ENVIRONMENTAL PRECAUTIONS:**

Keep out of water sources, drains and sewers. Do not flush into surface water or sanitary sewer system

### **6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:**

Methods for cleanup and containment:

Use explosion proof equipment. Shut off valves, contain spill. For small spills add non-flammable absorbent such as clay or silica in spill area. For large spills use foam on spill to minimize vapors clean up by vacuuming then using non-flammable absorbent. Remove contaminated soil to remove contaminated trace residues.

Methods for disposal:

Place all saturated absorbent, using non-sparking tools, in an approved container for disposal. Flush with water to remove trace residue. Minimize breathing vapors and skin contact, ventilate confined areas, open all windows and doors, assure conformity with applicable government regulations. Keep all nonessential people away. If spill occurs indoors, turn off air conditioning and/or heat systems to prevent vapors from contaminating entire building. Clean up personnel should have NIOSH approved positive pressure self-contained breathing apparatus.

### **REPORTABLE QUANTITY (RQ):** 10lbs.

The Superfund Amendments and Reauthorization Act (SARA) Section 304 requires that a release equal to or greater than the reportable quantity for this substance be immediately reported to the local emergency planning committee and the state emergency response commission (40 CFR 355.40). If the release of this substance is reportable under CERCLA Section 103, the national response center must be notified immediately at (800) 424-8882 or (202) 426-2675 in the metropolitan Washington, D. C. area (40 CFR 302.6).

6.4 REFERENCE TO OTHER SECTIONS: See Sections 8 and 13.

## 7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING: Avoid breathing vapors in top of shipping container. Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Do not take internally. Avoid work practices, that may release volatile components in the atmosphere. Avoid contaminating soil or releasing material into sewage and drainage systems. Use non-sparking tools to open or close containers.

Advice on general occupational hygiene:  
Wash hands before breaks and after work. Keep away from food, drink and animal feeding stuffs. When using do not smoke.

### 7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:

Follow maximum allowed pile heights specified in the BOCA codes or the NFPA manual. Local fire authorities should be notified for storage of this material in any quantity. Local permits are required for storage in warehouse quantities. Recommended storage temperature: 15 - 25°C. Store large quantities only in buildings designed to comply with OSHA 1910.106. Keep containers tight and upright to prevent leakage. Do not store with incompatible materials. Keep containers closed when not in use. Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

CONTAINER WARNINGS: Containers should be Bonded and Grounded when pouring. Avoid free fall of liquid in excess of a few inches. Empty containers release residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, or expose such containers to heat, sparks, static electricity or other sources of ignition. Do not attempt to clean. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum re-conditioner.

7.3 SPECIFIC END USES: Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8. EXPOSURE CONTROL (PERSONAL PROTECTION)

### 8.1 CONTROL PARAMETERS:

Ingredient Range Limits	CAS No.	% by WT.	Exposure
Trichloromethane	67-66-3 EC-No.200-663-8 Index-No.602-006-00-4 Reg.-No. 01-2119486657-20-XXXX	99-100	10ppm TWA (ACGIH)   2ppm ST (NIOSH)   50ppm Ceiling (OSHA Table Z-1)   500ppm IDLH

Ethanol	64-17-5		1000ppm TWA (ACGIH)
	EC-No.200-578-6		1000ppm TWA (OSHA)
	Index-No.603-002-00-5		1000ppm TWA (NIOSH)
	Reg.-No. 01-2120063206-63-XXXX		

Key: (PEL) = Permissible Exposure Limit OSHA  
(TLV) = Threshold Limit Value OSHA & ACGIH  
(STEL) = Short Term Exposure Limit ACGIH  
(WEEL) = USA. Workplace Environmental Exposure Levels  
(TWA) = Time Weighted Average  
CAS = Chemical Abstracts Registry Number  
IDLH = Immediate Danger to Life and Health  
N.E. =None Established

## 8.2 EXPOSURE CONTROLS

**EXPOSURE GUIDELINES:** Consider the potential hazards of this material (Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended

**ENGINEERING CONTROLS:** Provide general dilution or local exhaust ventilation in volume and pattern to keep concentrations within permitted exposure limits. All areas should be ventilated in accordance with OSHA Regulation 29 CFR Part 1910. Explosion proof motors should be used in mechanical ventilation.

**RESPIRATORY PROTECTION:** The specific respirator selected must be based on contamination levels found in the work place, must not exceed the working limits of the respirator and be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA):

In confined areas and where exposure exceeds 2ppm, use a NIOSH/MSHA approved positive pressure self-contained respirator (SCBA) with full face-piece (SCBA).

**BODY CLOTHING:** Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Remove, wash and dry contaminated clothing before reuse.

**SKIN PROTECTION:** Employee must wear appropriate protective gloves to prevent contact with this substance.

Full contact

Material: Fluorinated rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Splash contact

Material: Fluorinated rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min



**HYGIENE:** Use good personal hygiene practices, wash hands before eating, drinking, smoking or using toilet facilities.

**EYE/FACE PROTECTION:** Use chemical safety goggles plus full-face shield. Emergency shower and eyewash should be in close proximity to work area.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

Trichloromethane 67-66-3

<b>APPEARANCE:</b>	Dense, nonflammable, clear liquid
<b>COLOR:</b>	Colorless
<b>ODOR:</b>	Mildly sweet odor.
<b>ODOR THRESHOLD:</b>	No Data Available
<b>pH:</b>	No Data Available
<b>MOLECULAR WEIGHT:</b>	119.37 amu
<b>MELTING POINT:</b>	-63.5°C (-81°F)
<b>BOILING POINT:</b>	61°C (142°F)
<b>SPECIFIC GRAVITY:</b>	1.492 @ 25°C (77°F)
<b>DENSITY (25°C):</b>	1.492 @ 25°C (77°F)
<b>VAPOR PRESSURE:</b>	158 mmHg @ 20°C (68.0°F)
<b>VAPOR DENSITY:</b>	4.12
<b>WATER SOLUBILITY:</b>	8.7g/L @ 23°C (73°F)
<b>PARTITION COEFFICIENT N-OCTANOL/WATER</b>	log Pow: 1.97 @ 25°C (77°F)
<b>FLASH POINT:</b>	None
<b>EVAPORATION RATE (BUTYL ACETATE=1):</b>	7.4
<b>UPPER FLAMMABILITY LIMIT:</b>	No data available
<b>LOWER FLAMMABILITY LIMIT:</b>	No data available
<b>AUTO IGNITION TEMPERATURE:</b>	>600°C (>1112°F)
<b>DECOMPOSITION TEMPERATURE:</b>	No data available
<b>VISCOSITY:</b>	No data available
<b>EXPLOSIVE PROPERTIES:</b>	No data available
<b>OXIDIZING PROPERTIES:</b>	No data available

### 9.2 OTHER INFORMATION:

Surface tension: 27.1 mN/m at 20.0 °C (68.0 °F)

## **10. STABILITY AND REACTIVITY INFORMATION**

**10.1 REACTIVITY:** No data available.

**10.2 CHEMICAL STABILITY:** Unstable ( ) Stable (X)  
Contains the following stabilizer(s): Ethanol ( $\geq 0.5$  -  $\leq 1$  %)

**10.3 POSSIBILITY OF HAZARDOUS REACTIONS:** Vapor may form flammable mixture in atmosphere that contains a high percentage of oxygen. Exposure to combination of carbon monoxide and chloroform must be limited. Where carbon monoxide concentration equals its exposure limit, there should be no exposure to chloroform.

**POLYMERIZATION:** Hazardous Polymerization--> May occur ( ) Will not occur (X)

**10.4 CONDITIONS TO AVOID:** Heat, Sparks, Pilot Lights, Static Electricity, and other high temperature sources which induce thermal decomposition to irritating and corrosive HCL from solvent vapor. String UV light can cause significant phosgene to be generated.

**10.5 INCOMPATIBLE MATERIALS:** Strong oxidants such as liquid chlorine, oxygen, sodium hypochlorite, inorganic acids e.g. hydrochloric acid hydrogen peroxide, alkali metals, aluminum or zinc.

**10.6 HAZARDOUS DECOMPOSITION PRODUCTS:** Toxic fumes of Chlorine, Phosgene, Hydrochloric Acid can be produced at high temperatures in the presence of alkali metals.

## **11. TOXICOLOGICAL INFORMATION**

**11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:**

Routes of Entry: Inhalation--> x Skin--> x Ingestion--> x

**ACUTE HEALTH EFFECTS:**

Effects of overexposure:

**Eye**> Irritating, causing pain, inflammation and temporal eye damage; Liquid in the eye can cause loss of the cornea epithelium. Regeneration of cornea cells is prompt and returns to normal in 1-3 days.

**Skin**> Mildly irritating; May produce burning sensation and redness. Absorption of liquid through intact skin is possible and may cause systemic poisoning.

**Inhalation**> This is the major potential route of exposure. Irritation of the respiratory tract or acute nervous system depression characterized by headache, dizziness, staggering gait, confusion, unconsciousness or coma and possibly

death. Irritation of respiratory tract. Causes formation of carbon monoxide in blood, which affects cardiovascular system and the central nervous system.

Ingestion> Can cause severe burning of mouth and throat, pain in chest and abdomen. Irritation of gastrointestinal tract. If vomiting results in aspiration, chemical pneumonia could follow. Absorption through gastrointestinal tract may produce liver damage, symptoms of central nervous system depression, unconsciousness and death..

Chronic: Can cause headache, mental confusion, depression, fatigue, loss of appetite, nausea, vomiting cough, loss of sense of balance and visual; disturbances. Prolonged skin contact may cause dermatitis. Chronic inhalation or ingestion may cause liver damage.

Medical Conditions Aggravated by Exposure> Persons with angina or other cardiovascular diseases should not be exposed to this product. Persons with alcoholism, acute and chronic kidney and liver disease should not be exposed to this product. Drinking alcohol or taking phenobarbital can increase the potential for development of toxic effects resulting from exposure to this product.

#### ACUTE TOXICITY:

The effects of overexposure shown in Section II are based on acute toxicity profiles. Typical values are:

Ingredient	Oral LD50 (Rat)	Skin LD50 (Rabbit)	Inhalation LC50
Trichloromethane	908mg/kg	>20000mg/kg	47702mg/m <sup>3</sup> /4hr

SKIN CORROSION/IRRITATION: Skin - Rabbit Result: Irritating to skin. - 24 h

SERIOUS EYE DAMAGE/EYE IRRITATION: Eyes - Rabbit Result: Irritating to eyes. - 24 h

RESPIRATORY OR SKIN SENSITIZATION: Sensitization test: - Guinea pig Result: negative (Maximization Test)

MUTAGENIC EFFECTS: Ames test Salmonella typhimurium Result: negative.  
Reverse mutation assay Escherichia coli Result: negative.  
OECD Test Guideline 474 Rat - male and female - Bone marrow Result: negative  
OECD Test Guideline 486 Rat - male - Other cell types Result: negative`

CARCINOGEN STATUS: Carcinogenicity - Rat - Oral Tumorigenic: Carcinogenic by RTECS criteria. Leukemia.

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Chloroform)

NTP: RAHC - Reasonably anticipated to be a human carcinogen (Chloroform)

**OSHA:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**REPRODUCTIVE TOXICITY:** Reproductive toxicity tests have been conducted to evaluate the potential adverse effects chloroform may have on reproduction and offspring of laboratory animals. Chloroform has been found to be embryo toxic and fetal toxic and has delayed fetal development in experimental animals. Studies in mice and rats have shown a marginal teratogenic (birth defects) effect. Studies in rabbits have not shown teratogenic effects. Suspected of damaging the unborn child. Suspected human reproductive toxicant

**Specific target organ toxicity (STOT-SE) - single exposure (Category 3),** Central nervous system, May cause drowsiness or dizziness.

**Specific target organ toxicity (STOT-RE) - repeated exposure (Category 2),** Causes damage to organs through prolonged or repeated exposure. - Liver, Kidney.

**ASPIRATION HAZARD:** No information available.

#### **11.2 ADDITIONAL DATA:**

Vomiting, Cough, irritant effects, Shortness of breath, respiratory arrest, narcosis, Dizziness, Nausea, agitation, spasms, inebriation, Headache, Stomach/intestinal disorders, ataxia (impaired locomotor coordination), cardiovascular disorders Drying-out effect resulting in rough and chapped skin. Exposure to and/or consumption of alcohol may increase toxic effects.

**RTECS:** Not available

## **12. ECOLOGICAL INFORMATION**

### **DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS**

May be dangerous if it enters water intakes.

Notify local health and pollution control officials.

Notify operators of nearby water intakes.

#### **12.1 AQUATIC TOXICITY (Acute):**

**Toxicity to fish:**

**LC50 Pimephales promelas (fathead minnow) - 103 - 171 mg/l - 96**

**LC50 Danio rerio (zebra fish) - 121 mg/L - 48 h**

**(OECD Teat Guideline 203)**

**LC50 - Oncorhynchus mykiss (rainbow trout) – 18.2 mg/L - 96 h**

**Toxicity to daphnia and other invertebrates:**

**EC50 - Daphnia magna (Water flea) - 79 mg/L - 48 h**

Toxicity to algae:

ErC50 *Chlamydomonas reinhardtii* (green algae) - 13.3 mg/l - 72 h

**12.2 PERSISTENCE AND DEGRADABILITY:**

Aerobic - Exposure time 14 d Result: 0 % - Not readily biodegradable. (OECD Test Guideline 301C)

**12.3 BIOACCUMULATIVE POTENTIAL:** Log octanol/water partition coefficient (log Pow) is 1.97. This material is not expected to significantly bio-accumulate.

Cyprinus carpio (Carp) - 42 d at 25 °C - 0.1 mg/l

Bioconcentration factor (BCF): 4.1 - 13 (OECD Test Guideline 305)

**12.4 MOBILITY IN SOIL:** Surface Tension: 27.1 mN/m at 20.0 °C (68.0 °F)

**12.5 RESULTS OF PBT AND vPvB:**

PBT assessment results: This substance is not classified as PBT or vPvB.

**12.6 OTHER ADVERSE EFFECTS:** Harmful to aquatic life.

**13. DISPOSAL CONSIDERATIONS**

**13.1 WASTE TREATMENT METHODS:** Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly it is the responsibility of the user to determine the proper storage, transportation, treatment, and or disposal methodologies for spent materials and residues at time of disposition. Recovery and reuse of spilled product, rather than disposal, should be the ultimate goal of a clean up.

**CONTAMINATED PACKAGING:** Dispose of as unused product.

RCRA: The unused product is a RCRA hazardous waste if discarded. The RCRA ID number is: U044 AND D022

If the waste is a spent solvent, the appropriate spent solvent code should be used.

**DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 48 CFR 262**

**14. TRANSPORT INFORMATION**

Land Transport (DOT)

14.1 USDOT ID Number-----> UN1888

14.2 USDOT Shipping Name-----> Chloroform

14.3 USDOT Hazard Classification-----> 6.1

USDOT Label Codes-----> 6.1

14.4 USDOT Package Code-----> III  
14.5 Marine Pollutant-----> No  
14.6 Special precautions for user-----> Yes  
    Emergency Response Guide-----> 151  
    Reportable quantity-----> 10lbs.

#### Sea Transport (IMDG)

14.1 ID Number-----> UN1888  
14.2 Proper shipping name-----> CHLOROFORM  
14.3 Hazard Classification-----> 6.1  
    Label Codes-----> 6.1  
14.4 Package Code-----> III  
14.5 Marine Pollutant-----> No  
14.6 Special precautions for user-----> Yes  
    EMS-Number-----> F-A, S-A

#### Air Transport (IATA)

14.1 ID Number-----> UN1888  
14.2 Proper shipping name-----> Chloroform  
14.3 Hazard Classification-----> 6.1  
    Label Codes-----> 6.1  
14.4 Package Code-----> III  
14.5 Environmental hazard-----> None  
14.6 Special precautions for user-----> Yes

## 15. REGULATORY INFORMATION

### 15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE:

#### SARA TITLE III (Superfund Amendment and Reauthorization Act)

SECTION 302 AND 304: Extremely Hazardous Substance List (40 CFR 355) -  
Listed Chloroform CAS 67-66-3 10000lbs. TPQ

SECTION 313: Toxic Chemicals Listing (40 CFR 372.65) - Listed Chloroform CAS  
67-66-3

SECTION 311/312: Hazard Categorization (40 CFR 370) - Acute Health Hazard,  
Chronic Health Hazard.

#### CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)

SECTION 102(A) Hazardous Substances (40 CFR 302.4) - Listed  
Reportable Quantity - 10 pounds.

SECTION 101(14) Reportable Quantity: 10 lbs

**Massachusetts Right to Know Components**

Chloroform CAS-No.67-66-3

Ethanol CAS-No. 64-17-5

**Pennsylvania Right to Know Components**

Chloroform CAS-No.67-66-3

Ethanol CAS-No.64-17-5

**New Jersey Right to Know Components**

Chloroform CAS-No.67-66-3

Ethanol CAS-No.64-17-5

**California Prop. 65 Components****WARNING! This product contains a chemical known to the State of California to cause cancer. Chloroform CAS-No.67-66-3****TSCA (Toxic Substance Control Act)****Chloroform CAS 67-66-3 and Ethanol CAS-No. 64-17-5 are listed on the TSCA Inventory.****International Inventories:**

<b><u>Country or Region</u></b>	<b><u>Inventory Name</u></b>	<b><u>On inventory yes/no</u></b>
<b><u>Australia</u></b>	Australian Inventory of Chemical Substances (AICS)	Yes
<b><u>Canada</u></b>	Domestic Substances List (DSL)	Yes
<b><u>Canada</u></b>	Non-Domestic Substances List (NDSL)	No
<b><u>China</u></b>	Inventory of Existing Chemical Substances in China (IECSC)	Yes
<b><u>Europe</u></b>	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
<b><u>Europe</u></b>	European List of Notified Chemical Substances (ELINCS)	No
<b><u>Japan</u></b>	Inventory of Existing and New Chemical Substances (ENCS)	Yes
<b><u>Japan</u></b>	Industrial Safety & Health Law Inventory (ISHL)	Yes
<b><u>Korea</u></b>	Existing Chemicals List (ECL)	Yes
<b><u>Mexico</u></b>	National Inventory of Chemical Substances (INSQ)	Yes
<b><u>New Zealand</u></b>	New Zealand Inventory	Yes
<b><u>Philippines</u></b>	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
<b><u>Switzerland</u></b>	Inventory of Notified New Substances (CHINV)	Yes
<b><u>Taiwan</u></b>	National Existing Chemical Inventory (NECI)	Yes
<b><u>United States &amp; Puerto Rico</u></b>	Toxic Substances Control Act Inventory	Yes

**15.2 CHEMICAL SAFETY ASSESSMENT: A chemical safety assessment has not been carried out for this substance.****16. OTHER INFORMATION:****Hazard Rating:**

**4-Extreme**  
**3-High**  
**2-Moderate**  
**1-Slight**  
**0-Insignificant**

**NFPA RATINGS (SCALE 0-4): Health=3 Fire=0 Reactivity=0**  
**HMIS RATINGS (SCALE 0-4): Health=2 Fire=0 Reactivity=0 PPE=H**

**Hazard statement(s) from Section 2 and 3:**

**H302 Harmful if swallowed**

**H315 Causes skin irritation.**

**H319 Causes serious eye irritation.**

**H331 Toxic if Inhaled**

**H336 May cause drowsiness or dizziness.**

**H351 Suspected of causing cancer.**

**H361d Suspected of damaging fertility or the unborn child.**

**H372 Causes damage to organs (Liver, Kidney) through prolonged or repeated exposure.**

**H402 Harmful to aquatic life.**

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**Revision Content-----> Updated sections: 1, 3, 4, 5, 8, 9, 10, 11, and 12.**

**Revision-----> January 10, 2019**

**Prepared by-----> T.G. Fenstermaker Jr.**

**Acronyms:**

ACGIH - American Conference of Governmental Industrial Hygienists  
AIHA - American Industrial Hygiene Association  
ANSI - American Nation Standards Institute  
API - American Petroleum Institute  
CERCLA - Comprehensive Emergency Response, Compensation, and Liability Act  
DOT - U.S. Department of Transportation  
EPA - U.S. Environmental Protection Agency  
HMIS - Hazardous Materials Information System  
IARC - International Agency For Research On Cancer  
MSHA - Mine Safety and Health Administration  
NFPA - National Fire Protection Association  
NIOSH - National Institute of Occupational Safety and Health  
NOIC - Notice of Intended Change (Proposed change to ACGIH TLV)  
NTP - National Toxicology Program  
OPA - Oil Pollution Act of 1990  
OSHA - U.S. Occupational Safety & Health Administration  
PEL - Permissible Exposure Limit (OSHA)  
RCRA - Resource Conservation and Recovery Act  
REL - Recommended Exposure Limit (NIOSH)  
SARA - Superfund Amendments and Reauthorization Act of 1986 Title III  
SCBA - Self-Contained Breathing Apparatus  
STEL - Short-Term Exposure Limit (generally 15 minutes)  
TLV - Threshold Limit Value  
TSCA - Toxic Substances Control Act  
TWA - Time Weighted Average (8hr.)  
WHMIS - Canadian Workplace Hazardous Materials Information System



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